

constitute one of the important groups of food fish.

This species resembles *C. marulius*, but can be easily distinguished from it by the lack of a black white-edged ocellus on the caudal fin and numerous white spots on the caudal and dorsal fins.

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14. A SPECIAL METHOD OF FISH TRAPPING IN RIVER GANGA AT VARANASI

(With a text-figure)

Fishing methods used in river Ganga have been described in some detail by several earlier workers. In the present communication, a method, locally known as *Koli*, which had not attracted the attention of earlier workers, and is extensively employed in Ganga at Varanasi, is described. The method is effective for catching *Chela* spp., *Aspidoparia* spp., *Puntius* spp., *Mugil* spp., *Mystus* spp., etc. along shallow, sandy, banks where the current is sluggish. Two to six fishermen, two to four long bamboos (4m-5m), one or two short bamboos (2m-3m), four short "Y" shaped sticks (0.5m-1m), one big split bamboo or reed

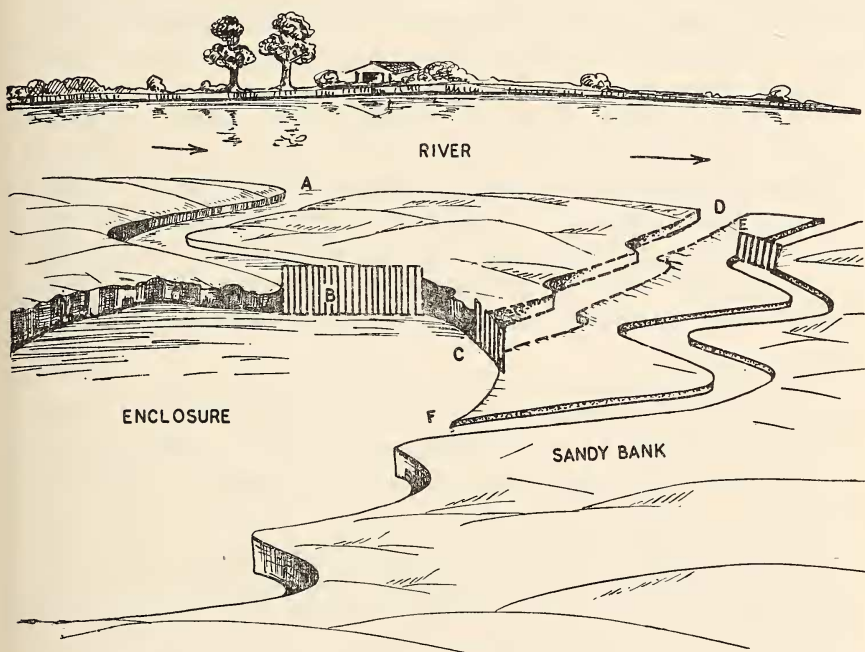
screen (1.8m-2.4m \times 3.6m-4.5m), one rectangular split bamboo screen (0.3m-0.6m \times 3.6m-4.5m), another comparatively smaller split bamboo or reed screen (0.6m-0.9m \times 1.5m-2.4m), one to two iron discs (0.3m-0.4m diameter) and a few baskets of split bamboo are essential prerequisites for *Koli* fishing.

A small water area of 0.3m-0.4m depth along the shallow, sandy, bank of the river is enclosed by raising temporary sand bunds, (0.61m-0.91m high). This enclosure has one or more openings connecting it with the main river (A, Fig. 1). The enclosure remains connected with the river all through night but is closed by bamboo screen, straw or sand quite early in the morning before sunrise, when the fishing operation starts. (B, Fig. 1). The fishes which enter the enclosure from the main river during night are enclosed and their escape is thus prevented. The fishes, so trapped are fished out almost completely in the following three operations, which take about two hours time.

1. A wide, shallow, channel (4m-8m width) is prepared by the side of the enclosure, by removing the sand from the bed with the help of iron disc. This channel connects the enclosure with the river. A large platform screen is made in the enclosure near its junction with the channel (C, Fig. 1), by spreading the screen on two long bamboos placed horizontally on four "Y" shaped sticks fixed in the bed. The rectangular split bamboo screen is then fixed in a slanting position in such a way that the lower side remains embedded in the sand bed of the enclosure, while the upper side rests a little above the screen platform. An opening is now made removing the sand at the mouth of the channel (D, Fig. 1) to allow the flow of water into the channel. The fishes, mostly *Chela* spp., *Aspidoparia* spp., *Mugil* spp., etc. trapped in the enclosure, move towards the channel and finding a barrier of the slanting screen, jump, and are thus stranded on the horizontal platform. These fishes are then collected by rolling the platform from both the sides and then the catch is kept in the basket.
2. In the second operation, the rectangular split bamboo screen is changed from slanting to vertical position. The fishermen, thereafter, start scaring the fish by beating the water in the enclosure and move towards the vertical screen. The fishermen use the short bamboos, holding them by hand and beating the water horizontally. As the fishermen approach the vertical screen, another vertical screen is fixed behind them in the enclosure, thereby reducing the area of operation and checking the escape of fishes into the enclosure again. In this process, the fishes which strike against the bamboo or legs of the fishermen, are caught by hand. Catfishes like *Mystus* spp., *R. rita*, etc., which do not jump over the horizontal platform in the first operation, are thus trapped

and are removed by hand by the fishermen.

3. Fishes that have escaped capture, during first two operations are generally small sized (5-10 cm) and are caught in the third and last operation. A shallow, narrow drain (0.8m-1m) is dug by removing sand by iron disc as in the second operation, connecting the enclosure with the river. A screen is fixed in the drain vertically near its junction with river (E, Fig. 1). Water is allowed to pass through the drain removing the sand at the junction of enclosure and channel (F, Fig. 1). After, it is noticed that the movement of fishes into the drain from enclosure has stopped, the mouth of the drain at the enclosure is closed by putting sand. Most of the fishes get stranded near the screen while some get trapped on the wet sand after the flow of water ceases. Both are picked up by hand.



The catch is collected in baskets and taken to fish market. The enclosure is again connected with the river by removing the screens for operation on the next morning.

This method is employed all round the year except the rainy season (June-September). The average catch of the fish per operation per day ranges from 10 kg to 30 kg. The effectiveness of this method may be due to the fact that on the approach of dusk, small sized fishes moving along the shallow banks of the river, enter the enclosure, which are

devoid of current to secure rest and protection. The efficacy of this method, particularly during dark nights, is further supported by the observations of the catch during moonlit nights, which is generally much less than the catch on dark nights.

CENTRAL INLAND FISHERIES

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15. CANNIBALISM AMONG SCORPIONS

The question whether scorpions ever eat each other has not been discussed in Max Vachon's admirable Note on "The Biology of Scorpions" (*JBNHS* 54, No. 1). Having recently kept some of these interesting arthropods, I offer the following observations.

(1) On 3-xi-'73 I obtained a female of the common "grey-and-yellow" type (cephalothorax and abdomen grey on top, legs and pedipalps yellow or pale orange) with some 20-25 babies crawling over her. The babies were so recently born that they were still colourless, only developing the typical colouring some 4-5 days later. Deciding to test the widespread belief that a mother scorpion offers her body for her babies' first meal, I kept the family in a glass jar with no food supply.

The babies died off one by one, while at the same time there was a decrease in the number of bodies (both living and dead) which could be seen. Since I feel reasonably certain that the mother ate none of her babies, this suggests that the stronger progeny devoured the weaker. By early December all the babies had died. Twelve bodies were counted in the jar, and these were left for some more days, during which the mother never touched them. That she was very hungry was proved by the eagerness with which she seized and totally devoured a cricket which I offered, after removing the babies' dead bodies, on 24 December.

The common belief in scorpions' matrophagy thus appears to be just another popular superstition.

(2) On 26-x-'73 two full-grown "grey-and-yellow" scorpions were found, a few inches apart, under a large stone. Not possessing the knowledge to sex them, I assumed that they were male and female, and kept them together in a large glass jar. As food, they were offered large cockroaches; these however seemed to inspire the scorpions with alarm, and were never captured and eaten in spite of being left there